

**CLAIMS**

1. Polymerisation process comprising polymerising olefins in a liquid diluent to produce a liquid slurry containing particles of normally solid polymer within a loop reactor, allowing the polymer to settle in a settling leg, periodically opening a 180° rotating product take-off  
5 valve located at the end of the settling leg to allow a charge of particles to flow out of the settling leg, the product take-off valve being operated by a pneumatically driven double-acting actuator, the pneumatic system being regulated by a system comprising pneumatic control valves characterised in that the control valves are V-ball valves.
2. The process of claim 1, wherein the control valves are automatic control valves.
- 10 3. Use of V-ball control valves to regulate the pneumatically driven double-acting actuator operating a 180° rotating product take-off valve of the settling leg of a loop reactor.
4. Use according to claim 3, wherein the control valves are automatic control valves.
5. Loop reactor comprising a settling leg, a 180° rotating product take-off valve located at the end of the settling leg, the 180° rotating product take-off valve being operated by a  
15 pneumatically driven double-acting actuator, the pneumatic system being regulated by a system comprising pneumatic control valves, characterised in that the control valves are V-ball valves.
6. Loop reactor according to claim 5, wherein the control valves are automatic control valves.